WAD 2917
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BURLINGTON ENVIRONMENTAL

LETTER OF TRANSMITTAL

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FILE COPY

To Dave Croxton
USEPA Region X
1200 Sixth Ave., HW-106
Seattle, WA 98101

Date 9/24/93

Project Pier 91

Project No. 624878

1. ( ) FOR REVIEW & COMMENT
2. ( ) FOR APPROVAL
3. (X) AS REQUESTED
4. ( ) FOR YOUR USE
5. ( )

Enclosed ( ) / Under separate cover ( )

NO. OF COPIES	DESCRIPTION
1	Data Supplement for Request to Variance from Pier 91 RFI Work Plan

REMARKS:

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FROM John C. Mag

TITLE

MEMORANDUM

DATE: September 24, 1993

TO: John Stiller

CC: Gary Podrabsky
Hector Gamboa
Dave Haddock

FROM: Andy Maloy

SUBJECT: DATA SUPPLEMENT FOR REQUEST FOR VARIANCE FROM PIER 91 WORK PLAN (SUBSTITUTION OF MW-39-3 FOR CP-120)

Attached is suggested wording and data in response to a request made by the USEPA on September 16 for more information regarding our request to substitute MW-39-3 for CP-120. This wording and data package was prepared for your submittal to the USEPA and incorporates the changes you suggested.

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DATA SUPPLEMENT
BURLINGTON PIER 91 RFI WORK PLAN
VARIANCE REQUEST

September 24, 1993

In response to a request by Dave Croxton of the U.S. Environmental Protection Agency (USEPA), to Burlington Environmental, Inc. (Burlington) on September 16, 1993, Burlington presents the attached data and discussion. The attached data and associated discussion concerns the Pier 91 RFI Work Plan variance request that Burlington submitted to the USEPA on March 1993 and supplements the data package submitted to USEPA on August 20, 1993. This variance requested substitution of Port of Seattle (Port) monitoring well MW-39-3 for proposed monitoring well CP-120 during quarterly groundwater sampling.

In March 1993, Burlington requested substitution of existing Port well MW-39-3 for proposed monitoring well CP-120. As stated in the approved Pier 91 RFI work plan, the purpose of monitoring well CP-120 is to:

- monitor the groundwater quality downgradient of the oil/water separator;
- to provide continued monitoring of a location exhibiting high analyte concentrations in a previous investigation; and
- to help define the presence and/or extent of dense nonaqueous-phase liquid (DNAPL) contamination in the shallow aquifer.

The rationale for the request to incorporate MW-39-3 into the monitoring well network rather than install CP-120 is summarized below:

- the proposed location for CP-120 is inaccessible to drilling equipment;
- based on information presented to Burlington by USEPA, existing well CP-115A is adequate to detect the presence of DNAPL that may be migrating down slope from the oil/water separator;
- MW-39-3 is located less than 100 feet hydraulically downgradient from the oil/water separator and should therefore provide data concerning the water quality downgradient of the oil/water separator.

MW-39-3 was installed in 1990 as part of a UST investigation for the Port. A 650-gallon steel UST containing diesel fuel was located approximately 25 feet southwest of MW-39-3 and was

removed on December 22, 1989. The tank was in generally poor condition and free product was noted in two of the three borings completed as part of the investigation (MW-39-2 and MW-39-3). Although the investigation concluded that significant contamination is present in the soil in the vicinity of the UST as a result of leaks and/or normal operation of the tank, no remediation or further investigation has been conducted by the Port. The report presenting the results of the UST investigation was included in the data package submitted to the USEPA by Burlington on August 20, 1993 (Harding Lawson Associates, 1990).

MW-39-3 is approximately 14 feet deep and is constructed of two-inch PVC and ten feet of 0.020-inch PVC slotted screen. The screen is constructed to intersect the water table and is therefore capable of detecting floating product. Construction details provided in the Harding Lawson report indicate that construction of the well meets WAC-173-160 standards and should provide reliable groundwater and LNAPL data for the shallow aquifer downgradient of the oil/water separator.

Although MW-39-3 appears to satisfy the objectives as approved by the USEPA for proposed monitoring well CP-120, the USEPA has expressed concern for the requested substitution due to the presence of floating product in MW-39-3. While the presence of floating product does not in any way affect the objectives established for installing CP-120, Burlington agrees that sampling MW-39-3 may provide only limited information on the extent of contamination resulting from Burlington's operations unless it can be established that the source of the floating product is not from Burlington's Pier 91 facility.

To assess the source of the floating product in MW-39-3, Burlington obtained product samples from MW-39-3 as well as from all on-site wells containing floating product in April and July 1993. The product was analyzed for WTPH-HCID and specific gravity. Results of these analyses for the April 1993 event are summarized in Table 1. Laboratory results for both sampling events are attached. Historical data collected during the UST investigation were provided in the data package submitted to the USEPA on August 20, 1993.

Results of the UST investigation presented in the Harding Lawson report indicate that the contamination present in the soil and groundwater in the vicinity of the UST is characteristic of diesel fuel. Product samples collected from MW-39-3 and most on-site wells indicate significant concentrations of gasoline, diesel, and heavy oil range petroleum hydrocarbons. In a further attempt to assess if the source of the floating product in MW-39-3 can be distinguished from the source of the floating product in on-site wells, Burlington obtained chromatograms of the WTPH-HCID analyses for wells CP-118 and MW-39-3. These two chromatograms are attached. Comparison of the two chromatograms indicates that the floating product from the two wells is virtually indistinguishable using GC-MS methods.

In summary, laboratory analysis of the floating product indicates that the source(s) of the floating product in the on-site wells and in MW-39-3 may not be distinguishable from one another. Therefore, incorporating MW-39-3 into the groundwater monitoring network may not provide substantially useful information regarding the characterization of potential contamination resulting from Burlington's operations. The same argument can be applied to installing CP-120 in

Table 1
WTPH-HCID Results
April 1993 Sampling Event

Well Number	Gasoline Range (ppm)	Diesel Range (ppm)	Heavy Oil Range (ppm)
MW-39-3	>20	>50	>100
CP-107	>20	>50	<100
CP-109	>20	>50	>100
CP-110	>20	>50	<100
CP-117	<20	>50	<100
CP-118	>20	>50	<100
CP-119	>20	>50	>100

the vicinity of the original proposed location since a well installed in this location will likely contain floating product. Since the product in well MW-39-3 may not be distinguishable from product in on-site wells, Burlington proposes to address the off-site adequacy of the present groundwater monitoring system after submission of the RFI report. The schedule of deliverables approved by the USEPA includes a requirement for an off-site RFI work plan after completion of the on-site RFI. Any well installed as a substitute for CP-120 will likely be located off-site. As described in the approved RFI work plan, off-site contamination resulting from Burlington-related releases will be addressed in the off-site RFI work plan. Therefore, installing a monitoring well off-site to characterize known off-site contamination is not appropriate during the present phase of the RFI.

Because the floating product present in MW-39-3 is not at present distinguishable from floating product present on-site, Burlington withdraws its March 1993 request to substitute MW-39-3 for CP-120, and proposes to defer installation of CP-120 until an appropriate location can be developed as part of an integrated off-site RFI work plan.

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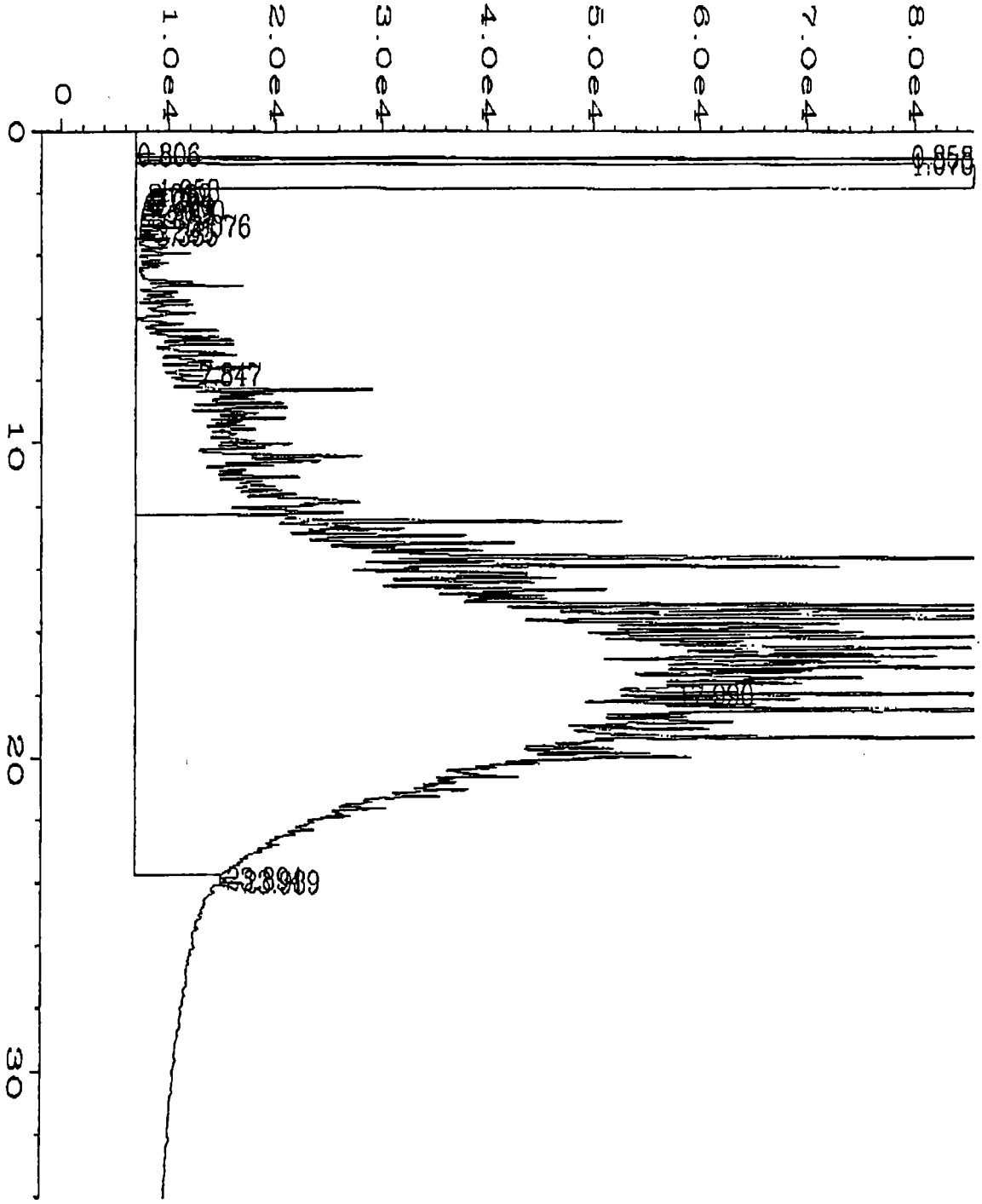
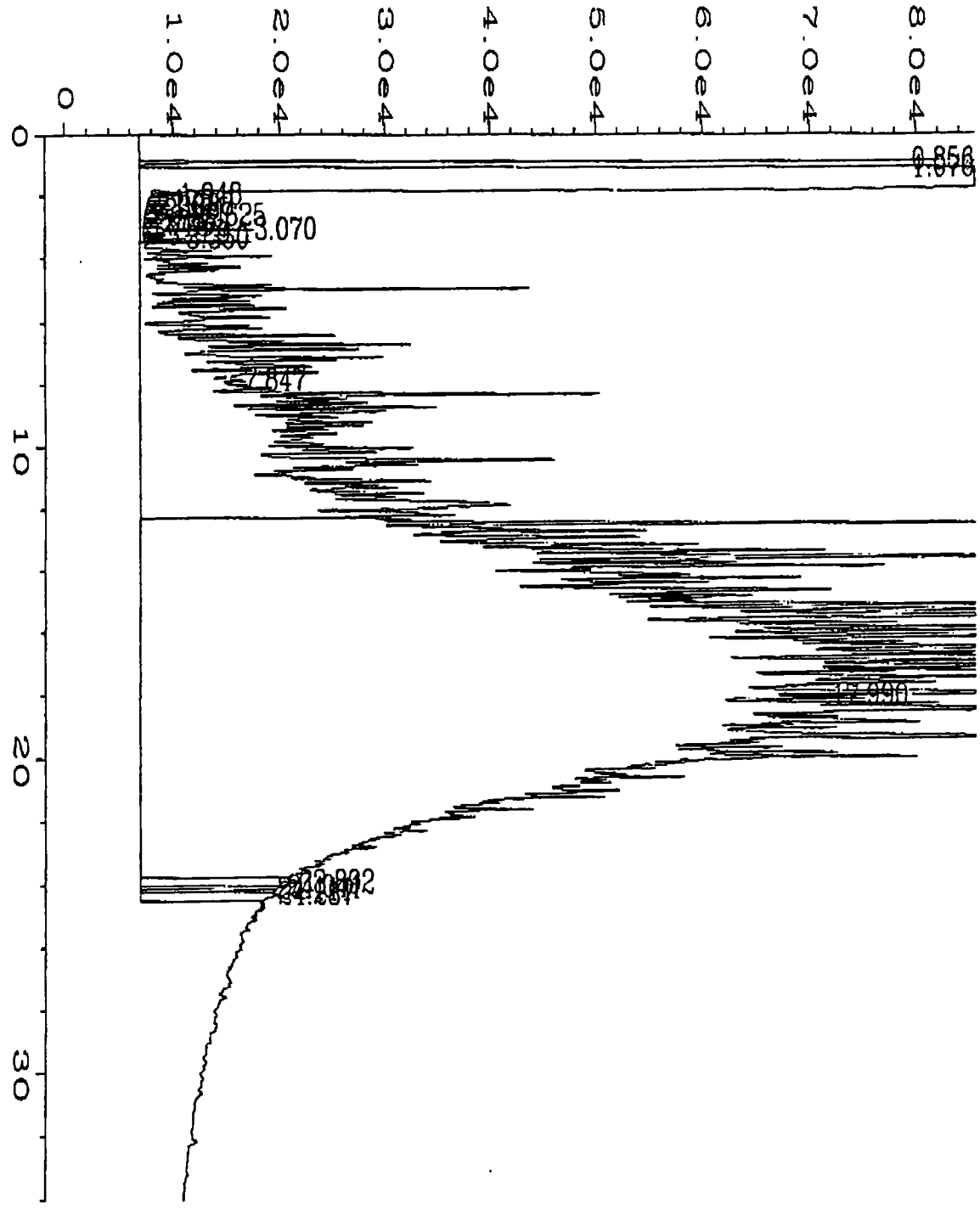


CP-118

Data File Name	: C:\HPCHEM\1\DATA\041993_A\014F0101.D		
Operator	: DAS/DMW	Page Number	: 1
Instrument	: HP 5890	Vial Number	: 14
Sample Name	: 31428-6	Injection Number	: 1
Run Time Bar Code:		Sequence Line	: 1
Acquired on	: 20 Apr 93 09:09 AM	Instrument Method	: O-TERPH.MTH
Report Created on	: 20 Apr 93 11:41 AM	Analysis Method	: I-HCID.MTH
Last Recalib on	: 13 APR 93 08:39 AM	Sample Amount	: 0
Multiplier	: 1	ISTD Amount	:



MW-39-3

Data File Name	: C:\HPCHEM\1\DATA\041993_A\019F0101.D		
Operator	: DAS/DMW	Page Number	: 1
Instrument	: HP 5890	Vial Number	: 19
Sample Name	: 31448-7 1:5	Injection Number	: 1
Run Time Bar Code:		Sequence Line	: 1
Acquired on	: 20 Apr 93 12:39 PM	Instrument Method	: O-TERPH.MTH
Report Created on:	20 Apr 93 01:49 PM	Analysis Method	: I-HCID.MTH
Last Recalib on	: 13 APR 93 08:39 AM	Sample Amount	: 0
Multiplier	: 1	ISTD Amount	:

SOUND ANALYTICAL SERVICES, INC.

Burlington Environmental, Technical Services
Project: 624878-7306 Pier 91

Lab No. 31448
April 28, 1993

Lab Sample No. 31448-8 Client ID: CP-39-3-0493
Matrix: Oil

WTPH-HCID
Date Extracted: 4-19-93
Date Analyzed: 4-20-93

Parameters	Concentration, mg/kg	Flag
Gasoline (C7 - C12)	> 20	
Diesel (> C12 - C24)	> 50	
Heavy Oil (C24+)	> 100	

SURROGATE RECOVERY, %

1-chlorooctane	X10
o-terphenyl	X10

ND - Not Detected
PQL - Practical Quantitation Limit

Parameter	Result
Specific gravity	0.8745

SOUND ANALYTICAL SERVICES, INC.

Burlington Environmental, Technical Services
Project: 624878-7306 Pier 91

Lab No. 31340
April 22, 1993

Lab Sample No. 31340-1 Client ID: CP-107-0493
Matrix: Oil

WTPH-HCID
Date Extracted: 4-16-93
Date Analyzed: 4-20-93

Parameters	Concentration, mg/kg	Flag
Gasoline (C7 - C12)	> 20	
Diesel (> C12 - C24)	> 50	
Heavy Oil (C24+)	< 100	

SURROGATE RECOVERY, %

1-chlorooctane	X10
o-terphenyl	X10

ND - Not Detected
PQL - Practical Quantitation Limit

Parameter	Result
Specific Gravity	0.866

Continued . . . . .

SOUND ANALYTICAL SERVICES, INC.

Burlington Environmental, Technical Services
Project: 624878-7306 Pier 91

Lab No. 31448
April 28, 1993

Lab Sample No. 31448-7 Client ID: CP-109-0493
Matrix: Oil

WTPH-HCID
Date Extracted: 4-19-93
Date Analyzed: 4-20-93

Parameters	Concentration, mg/kg	Flag
Gasoline (C7 - C12)	> 20	
Diesel (> C12 - C24)	> 50	
Heavy Oil (C24+)	> 100	

SURROGATE RECOVERY, %

1-chlorooctane	X10
o-terphenyl	X10

ND - Not Detected
PQL - Practical Quantitation Limit

Parameter	Result
Specific gravity	0.8947

Continued . . . . .

SOUND ANALYTICAL SERVICES, INC.

Burlington Environmental, Technical Services
Project: 624878-7306 Pier 91

Lab No. 31409
April 22, 1993

Lab Sample No. 31409-4 Client ID: CP-110-0493
Matrix: Oil

WTPH-HCID
Date Extracted: 4-16-93
Date Analyzed: 4-20-93

Parameters	Concentration, mg/kg	Flag
Gasoline (C7 - C12)	> 20	
Diesel (> C12 - C24)	> 50	
Heavy Oil (C24+)	< 100	

SURROGATE RECOVERY, %

1-chlorooctane	X10
o-terphenyl	X10

ND - Not Detected
PQL - Practical Quantitation Limit

Parameter	Result
Specific Gravity	0.9506

SOUND ANALYTICAL SERVICES, INC.

Burlington Environmental, Technical Services
Project: 624878-7306 Pier 91

Lab No. 31428
April 27, 1993

Lab Sample No. 31428-5 Client ID: CP-117-0493
Matrix: Oil

WTPH-HCID
Date Extracted: 4-16-93
Date Analyzed: 4-20-93

Parameters	Concentration, mg/kg	Flag
Gasoline (C7 - C12)	< 20	
Diesel (> C12 - C24)	> 50	
Heavy Oil (C24+)	< 100	

SURROGATE RECOVERY, %

1-chlorooctane	107
o-terphenyl	93

ND - Not Detected
PQL - Practical Quantitation Limit

Parameter	Result
Specific Gravity	1.0055

Continued . . . . .

SOUND ANALYTICAL SERVICES, INC.

Burlington Environmental, Technical Services
Project: 624878-7306 Pier 91

Lab No. 31428
April 27, 1993

Lab Sample No. 31428-6 Client ID: CP-118-0493
Matrix: Oil

WTPH-HCID
Date Extracted: 4-16-93
Date Analyzed: 4-20-93

Parameters	Concentration, mg/kg	Flag
Gasoline (C7 - C12)	> 20	
Diesel (> C12 - C24)	> 50	
Heavy Oil (C24+)	< 100	

SURROGATE RECOVERY, %

1-chlorooctane	76	
o-terphenyl	360	X10

ND - Not Detected
PQL - Practical Quantitation Limit

Parameter	Result
Specific Gravity	0.8849

Continued . . . . .

SOUND ANALYTICAL SERVICES, INC.

Burlington Environmental, Technical Services
Project: 624878-7306 Pier 91

Lab No. 31428
April 27, 1993

Lab Sample No. 31428-7 Client ID: CP-119-0493
Matrix: Oil

WTPH-HCID
Date Extracted: 4-16-93
Date Analyzed: 4-20-93

Parameters	Concentration, mg/kg	Flag
Gasoline (C7 - C12)	> 20	
Diesel (> C12 - C24)	> 50	
Heavy Oil (C24+)	> 100	

SURROGATE RECOVERY, %

1-chlorooctane	48	X9
o-terphenyl	133	

ND - Not Detected
PQL - Practical Quantitation Limit

Parameter	Result
Specific Gravity	0.9080